

## **DETAILED ACTION**

### ***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d) (1) and MPEP § 608.01(o). Correction of the following is required: the subject matter "a negative pulse" in claim 4 is not clear disclosed in specification.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claim 4** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. "a negative pulse" in claim 4, line 2 is not clear understood.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Pacholok, US Patent No. 4,904,903.

**Regarding claim 1**, Pacholok discloses method of driving a high-pressure gas discharge lamp (11) during its steady state operation (**abstract**), wherein a steady-state current signal (G1) (**sufficient current, fig.1a, col.5, lines 28-37**) is sent through the lamp (11) (**fig. 1a**) for maintaining an arc in the lamp (11) (**col.5, lines 28-37**), comprising the step of comparing the lamp voltage response (V<sub>lamp</sub>) to a current step in said current signal with reference parameters (**fig.1a, col.4, lines 16-38**); and in response to said comparison at least one of the following steps: stopping the power supply to the lamp (11) (**switching the FET to interruption mode, it would be obvious the power supply is stopped by switching FET mode in purpose of generating pulse in order to gain a clear understanding of lamp performance, col.5, lines 16-69**), generating a signal indicating the end of life status of the lamp (11) (**lamp performance under condition, it would be obvious in the art of circuitry the performance of lamp could be life status of the lamp in purpose of testing the circuit of lamp in order to get a clear understanding, col.5, lines 16-69**), changing the steady-state current through the lamp (11) (**col.5, lines 16-69**), changing the steady-state waveform of the current signal through the lamp (11) (**col.5, lines 16-69**), and generating a signal indicating the lamp type (**lamp performance under condition, it would be obvious in the art of circuitry the performance of lamp could be the lamp type in purpose of testing the circuit of lamp in order to get a clear understanding, col.5, lines 16-69**col.5, lines 16-69), characterized in that said current step is obtained by sending a current pulse (G2) which is superimposed on said steady-

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state current signal (G1) through the lamp (11) (**fig.1b-fig.1m, col.5 line3-col.65 line 60**).

**Regarding claim 2**, method according to claim 1, Pacholok further discloses wherein the steady- state current signal (G1) comprises an alternating current component (**col.8, lines 46-60**).

**Regarding claim 3**, method according to claim 2, Pacholok further discloses wherein the duration of said pulse (G2) is shorter than the duration of the half period of the AC current component or the half period of the AC current signal of the steady-state current signal (G1) (**as shown in fig.8, fig.9 or fig.12**).

**Regarding claim 4**, method according to claim 1, Pacholok further discloses wherein the superimposed pulse (G2) is a negative pulse (**as shown in fig.8, fig.9 or fig.12**).

**Regarding claim 5**, method according to claim 1, Pacholok further discloses wherein the duration of said pulse (G2) is a multiple of the duration of the period of the AC current component of the steady-state power signal (G1), and wherein preferably the pulse (G2) is comprised of a temporarily intensified amplitude of said AC current component of the steady- state power signal (G1) (**as shown in fig.8, fig.9 or fig.12**).

**Regarding claim 6**, method according to claim 1, Pacholok further discloses wherein the step of comparing the voltage response (V<sub>lamp</sub>) comprises measuring the decay or rise time ( $\tau$ ) of the voltage and comparing it with a reference decay or rise time (**col.4, lines 5-38**).

**Regarding claim 7**, method according to claim 1, Pacholok further discloses wherein the step of comparing the voltage response (V<sub>lamp</sub>) comprises analyzing the shape of the response signal and comparing it with reference values (**col.4, lines 5-68**).

**Regarding claim 8**, method according to claim 1, Pacholok further discloses wherein the step of changing the steady-state waveform (G<sub>1</sub>) comprises the step of superimposing a recurring current pulse (G<sub>2</sub>) on said steady-state waveform (**as shown in fig.8, fig.9 or fig.12**).

**Regarding claim 9**, Pacholok discloses a ballast (10) for driving a high-pressure gas discharge lamp (11) (**abstract**), comprising power supply means (**BT1, fig.1a**) for sending a steady-state current signal (G<sub>1</sub>) through the lamp (11) for maintaining an arc in the lamp (11) ) (**fig.1a, col.5, lines 28-37**), response comparing means (6,7 fig.2) for comparing the lamp voltage response (V<sub>lamp</sub>) to a current step in said current signal with reference parameters (**col.4, lines 16-38**); and responding means for stopping the power supply to the lamp (11) (**col.5, lines 16-69**), generating a signal indicating the end of life status of the lamp (11) (**col.5, lines 16-69**),

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generating a signal indicating the lamp type (**col.5, lines 16-69**), changing the steady-state current through the lamp (11) (**col.5, lines 16-69**), and/or changing the steady-state waveform of the current signal through the lamp (11) in response to said comparison (**fig.1b-fig.1m, col.5, lines 16-69**), characterized in that said ballast (10) further comprises pulse means (**comprising BT2 and Pulse generator, Fig.1a**) for sending a current pulse (G2) which is superimposed on said steady-state current signal (G1) through the lamp (11) for obtaining said current step (**col.5 line3-col.65 line 60**).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jianzi Chen whose telephone number is 5712705292. The examiner can normally be reached on Monday through Thursday 10:00- 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on 5712721662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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